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## COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

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### BOYS AND GIRLS CLUB WORK.

### HOME GARDENS.

#### VEGETABLES TO GROW AND HOW TO GROW THEM.

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#### GARDEN PLAN.

In preparing for a garden one should have a well-defined plan to follow. The plan will vary with the kind of plants to be grown, the size of plat available, the section of country, and to some extent with the kind of soil. The small plants like carrots, parsnips, beets, lettuce, etc., may well be grouped in adjacent rows because they need much the same treatment and the



FIG. 1.—Vegetables for the whole year from this well-arranged home garden. Courtesy California Club Work.

rows may be close together. Potatoes and sweet corn go well together, as they need about the same amount of space. Melons, cucumbers, etc., should be grouped together. Perennial plants like asparagus and rhubarb should occupy a side or end of the garden. Figure 1 shows a well arranged home garden.

### KIND OF SOIL.

A good garden can be made on any fairly fertile land, but a sandy loam or clay loam enriched with manure is ideal. Light sand with plenty of manure will give good results. Heavy clay is not very desirable because it bakes or forms clods if worked when it is just a little too wet or too dry. A good dressing of manure, however, will improve soil of this kind wonderfully.



FIG. 2.—Not very promising, but a good vacant-lot beginning—garden truck taking the place of tin cans and rubbish. Courtesy Minnesota Club Work.

If vacant lots (fig. 2) and other lands long idle are used, they probably will be acid. Usually 1 pound of dry-slaked lime to 30 square feet of surface well worked into the ground after it is plowed will correct this. A liberal application of unleached wood ashes will be even better than lime for this purpose. Coal ashes will not correct the acid condition of the soil nor add fertility to it.

### PREPARATION OF SOIL.

The ground should be plowed or spaded 8 to 15 inches deep when it is just dry enough to break up nicely. Then it should be cultivated, harrowed, rolled, or raked into fine tilth to form a good seed bed, particularly for the small seeds.

### DISTANCE APART OF ROWS.

This will depend upon the kind of plants and the kind of cultivation. If a hand cultivator or wheel hoe (fig. 3) is used, the rows of small plants like radish, lettuce, beets, etc., may be only 15 inches apart. Potatoes, corn, etc., should be about 30 inches apart. If horse cultivation is used all of the rows should be 30 to 36 inches apart.

#### TIME OF PLANTING SEEDS.

Garden peas are hardy and should be planted very early; in fact, even while frosts occur nightly. Early potatoes and spring-planted spinach follow, and if heavy frost threatens after the potato tops are several inches high they may be covered with earth for protection. Lettuce,



FIG. 3.—A good type of hand cultivator or wheel hoe which has several attachments, as shovels, rake, cultivator teeth, and plow. Courtesy Indiana Club Work.

beets, radishes, turnips, carrots, onions, and parsnips may be planted early also. The other crops, like beans, cucumbers, melons, etc., should not be planted until the ground warms up and frosts have practically ceased; "apple-blossom time" is about right for these.

#### LAYING OFF STRAIGHT ROWS.

Set stakes the required distance apart across each end of the garden and stretch a stout string or garden line between two opposite stakes to mark the location of the row. Run a pointed hoe, or garden cultivator with pointed shovel, along the string to open up the row. The depth of row will vary with kind of seed. For plants grown in hills the places for seeds may be indicated by a light stroke with a hoe beneath the garden line. Straight rows add to the attractiveness of the garden (see fig. 4), and make it easier to cultivate.

#### SUCCESSION OF CROPS.

A succession of crops like radishes, beans, corn, etc., may be had over a large part of the entire season by making successive plantings of seeds every ten days or two weeks. Furthermore, two or more crops may be grown on the same ground by successive plantings. As soon as a portion of a row of one crop is removed seeds of the same or another crop should be planted at once. With sweet corn, for instance, as many as five or six different plantings may be growing at one time. Keep the ground busy, have something growing on the whole garden throughout the entire season.

### OUTDOOR SEED BED.

Circular NR-2 of this series described the seed box for growing early plants indoors. The outdoor seed bed for later plants may be made in a cold frame or in very rich friable soil in any part of the garden. The seeds for late crops of tomatoes, cabbage, or other desired crops, are sown thickly in rows or broadcast. With good care the plants grow rapidly. The seed bed should be well soaked with water just before the plants are pulled for transplanting. As the



FIG. 4.—Straight rows add to the attractiveness of the garden. Courtesy Colorado Club Work.

plants are pulled the roots should be dipped in thin mud, which protects them from drying out while being handled. This is called "puddling the roots." If loose rich soil is not available and heavy clay must be used, the plants should be taken up with a knife or trowel to retain the earth on the roots.

### SOWING THE SEED AND SETTING THE PLANTS.

The seeds of most garden crops are sown in the garden where the plants are to grow and mature. With a few crops like the tomato and cabbage the seeds are sown in seed boxes indoors for the early crop (see Circular NR-2) and in outdoor seed beds for the late crop. The following brief directions are offered as a guide for general garden planting, the names of the vegetables being arranged alphabetically:

*Asparagus.*—Set two-year old plants 14 inches apart in rows 3 feet apart. Open up rows 8 to 10 inches deep and 6 to 8 inches wide at bottom, spread out roots, and cover crowns with about 2 inches of earth. As the shoots grow fill in earth until surface is level. Give good cultivation all season. Asparagus plants usually are purchased from seedsmen.

*Bean, bush or snap.*—Plant 4 or 5 seeds 1 to 2 inches deep in hills 12 to 15 inches apart and later thin to 2 or 3 plants when 4 to 6 inches high; or plant single seeds 3 inches apart in rows.

*Bean, pole.*—Plant 4 or 5 seeds 1 to 2 inches deep in hills 3 to 4 feet apart in the row. Thin to 2 or 3 plants when 4 to 6 inches high. A pole 5 to 6 feet long is necessary for each hill and

the poles should be set in position before the seeds are planted. If possible, have two rows of pole beans and slant the poles so that the tops of each set of four may be tied together "tent-like" for mutual support. (See fig. 5.)

*Bean, bush lima.*—Plant 3 or 4 seeds 1 inch deep, eyes downward, in hills 20 to 24 inches apart. Thin to 2 plants when 6 inches high.

*Bean, pole lima.*—Plant 3 or 4 seeds 1 inch deep, eyes downward, in hills 3 to 4 feet apart. Thin to 2 or 3 plants when 4 to 6 inches high. Set the poles exactly as directed for pole beans above.

*Beet.*—Sow seeds one-half inch deep, using one-half ounce for 25 feet of row. The surplus plants thinned out make good "greens."

*Brussels sprouts.*—Culture same as cabbage.

*Cabbage.*—Set plants 15 inches apart in the row. Plants for early crop are grown in seed box as described in Circular NR-2. Plants for late crop are grown in outdoor seed bed.

*Cauliflower.*—Culture same as cabbage, except that when heads form the leaves should be tied together above the head to keep out the light.



FIG. 5.—Note the tent-like arrangement of the bean poles. Courtesy Rhode Island Club Work.

*Carrot.*—Sow seeds one-half inch deep, using one-fourth ounce to 25 feet of row. Thin if necessary to prevent crowding.

*Celeriac.*—Culture same as celery.

*Celery.*—Sow seeds in seed box or seed bed early before warm weather comes, and in June or July transplant to the garden. Set plants 6 inches apart in the row.

*Chard, Swiss.*—Sow seeds one-half inch deep, using one-half ounce for 25 feet of row. Thin out surplus plants if necessary.

*Citron.*—Culture same as watermelon.

*Corn, sweet.*—Plant 5 or 6 seeds 1 inch deep in hills 2 to 3 feet apart. When 4 inches high thin to 2 plants per hill. Make successive plantings every two weeks.

*Cucumbers.*—Plant 8 or 10 seeds 1 inch deep in hills 4 feet apart and thin to 2 plants per hill or have single plants  $1\frac{1}{2}$  feet apart in rows 7 feet apart.

*Dandelion.*—In midsummer sow seeds one-half inch deep and thin plants to 12 inches apart. This crop can not be used until the following spring.

*Eggplant.*—Set plants from seed box or seed bed 2 feet apart in the row.

*Endive.*—In midsummer sow seeds one-half inch deep and later thin plants to 8 inches apart. Tie leaves to blanch the heart.

*Kohl-rabi*.—Sow seed one-half inch deep, using one-eighth ounce to 50 feet of row, and later thin the plants to 4 or 6 inches apart.

*Leek*.—Sow seed 1 inch deep, using one-eighth ounce to 25 feet of row. Thin plants to 4 inches apart and, when nearly grown, mound up the earth 6 to 8 inches high to blanch the fleshy stem.

*Lettuce*.—Sow the seeds one-half inch deep, and later thin the plants to 5 or 6 inches apart. Make successive plantings.

*Mint*.—One or two plants at one side of the garden will be sufficient. Secure a clump or two of roots from a neighbor or seedsman in the spring.

*Muskmelon or cantaloup*.—Plant 8 or 10 seeds an inch deep in hills 6 feet apart, and later thin to 2 or 3 plants per hill, or grow single plants 2 feet apart in the row.

*Onion, sets*.—Plant the sets 3 inches apart in the row.

*Onion, seeds*.—Sow seeds three-fourths inch deep, using one-fourth ounce to 25 feet of row. Thin plants later to 3 inches apart. Seeds may be planted in seed box or seed bed and transplanted 3 inches apart in garden row.

*Onions, multiplier*.—Plant bulbs or sets in the fall for producing green onions early the following spring.

*Oyster plant*.—This is salsify, which see.

*Parsley*.—Sow seeds one-half inch deep thinly in the row and later thin plants as necessary to prevent crowding.

*Parsnip*.—Sow seeds three-fourths inch deep and later thin plants to 3 inches apart. One-fourth ounce of seed will plant 50 feet of row.

*Peas*.—Make a trench 4 to 6 inches deep, sow 1 to 2 pints to each 100 feet of row, and cover 2 inches deep. As plants grow fill up trench with earth. Peas may be planted in double rows 1 foot apart if so desired. Brush or poultry wire should be used to support the vines. Successive plantings of peas should be made to cover a long season.

*Peppers*.—Plants from seed box or seed bed should be set 18 inches apart in the garden row.

*Potatoes, early*.—Make trench 6 inches deep and plant in hills 16 inches apart. Cover with 2 inches of earth and fill in as plants grow. If frost threatens, cover entire plants with earth. If tubers are of medium size or larger, cut to two-eye pieces.

*Potatoes, late*.—Same as early crop, but plant in July or August.

*Potatoes, sweet*.—Set plants 14 inches apart in the row; a warm, loose, sandy soil is best for this crop. Plants are obtained usually from seedsman.

*Pumpkin*.—Plant 8 or 10 seeds in hills 8 to 10 feet apart, and thin later to 2 or 3 plants per hill.

*Radish*.—Sow seeds three-fourths inch deep, using one-fourth ounce for 25 feet of row. Make successive plantings.

*Rhubarb*.—Set plants or crowns 3 to 4 feet apart in the row. New plants or crowns are made by dividing up old plants or by sowing seeds three-fourths inch deep and thinning plants to 6 or 8 inches apart. Growing seedlings, however, is not recommended.

*Ruta-baga*.—During last half of June sow seeds three-fourths inch deep, using one-fourth ounce to 100 feet of row. Later thin plants to 6 or 8 inches apart.

*Salsify*.—Sow seeds one-half inch deep, using one-fourth ounce to 25 feet of row. Thin plants later to 3 inches apart.

*Spinach, spring crop*.—Sow seeds 1 inch deep, using one-fourth ounce to 25 feet of row.

*Spinach, fall crop*.—Sow seed 1 inch deep in August, using one-fourth ounce for 25 feet of row.

*Squash, bush or summer*.—Plant 8 or 10 seeds 1 inch deep in hills 4 to 5 feet apart, and later thin to 2 or 3 plants per hill.

*Squash, Hubbard type.*—Plant 8 or 10 seeds 1 inch deep in hills 8 to 10 feet apart, and later thin to 2 or 3 plants per hill.

*Tomato.*—Transplant from seed box or seed bed. Set plants 18 inches apart in row if they are to be supported by stakes, or 3 or 4 feet apart if not staked.

*Turnip, early spring crop.*—Sow seeds one-half inch deep, using one-fourth ounce to 50 feet of row.

*Turnip, fall crop.*—Sow seeds one-fourth inch deep, using one-fourth ounce to 50 feet of row in July or August.

*Watermelon.*—Plant 8 or 10 seeds 1 inch deep in hills 10 feet apart, and later thin to 2 plants per hill; or grow single plants 3 feet apart in rows 10 feet apart.

#### CULTIVATING THE GARDEN.

It is generally understood that the garden needs thorough cultivation to keep the ground in good fine condition, to retain moisture, to kill weeds, and to liberate plant food. Cultivation should be given at least every ten days when rains do not interfere. Since rains pack the ground it should be cultivated as soon as it is dry enough after each rain. Hoeing is considered a form of cultivation.

Rains may cause an earth crust to form over seeds before they can germinate; this crust should be broken up with a garden rake or other garden tool. Because many of the small seeds are slow to germinate and radish seeds germinate quickly, it is a good plan to scatter a few radish seeds in the rows with them to act as markers in outlining the row should early cultivation be desired.

#### BULLETINS ON VEGETABLE CULTURE.

Those who desire more information on growing garden crops than is contained in this circular should send to their State college of agriculture. The United States Department of Agriculture, Washington, D. C., has the following Farmers' Bulletins which may be helpful: 254, Cucumbers; 255, Home Vegetable Garden; 289, Beans; 324, Sweet Potatoes; 354, Onion Culture; 433, Cabbage; also Bureau of Plant Industry Document 883, Tomato Growing as Club Work in the North and West.

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